TECHNICAL INFORMATION

AND

SERVICE DATA

AWA RADIOLA

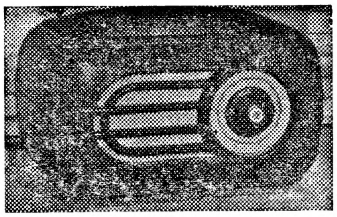
Models 517-M & 717-C

FOUR VALVE, ONE BAND

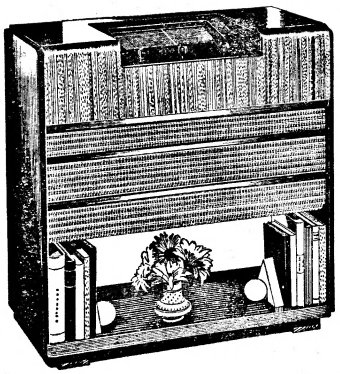
A.C. OPERATED SUPERHETERODYNES

ISSUED BY

AMALGAMATED WIRELESS (A/SIA.) LTD.



517-M



717-C

ELECTRICAL SPECIFICATIONS.

FREQUENCY RANGE ..... 1600-540 Kc/s (187.5-555M)

INTERMEDIATE FREQUENCY ..... 455 Kc/s

POWER SUPPLY RATING ..... 200-260 volts 50-60 C.P.S.

(Models are produced with other voltage and frequency ratings)

POWER CONSUMPTION ..... 45 watts

DIAL LAMPS ..... 6.3 volt, 0.25 Amp. M.E.S.

VALVE COMPLEMENT:

(1) 6A8G Converter

(2) 6G8G I.F. Amp., A.F. Amp., 2nd Det., and A.V.C.

(3) 6V6GT Output

(4) 5Y3GT Rectifier

LOUDSPEAKER:

Model 517-M.
5 inch—code number AA17
Transformer XA2
V.C. Impedance 3 ohms at 400 C.P.S.

Model 717-C.
7 inch—code number AW19
Transformer XA1
V.C. Impedance 3 ohms at 400 C.P.S.

Undistorted Power Output: 3 watts.

MECHANICAL SPECIFICATIONS.

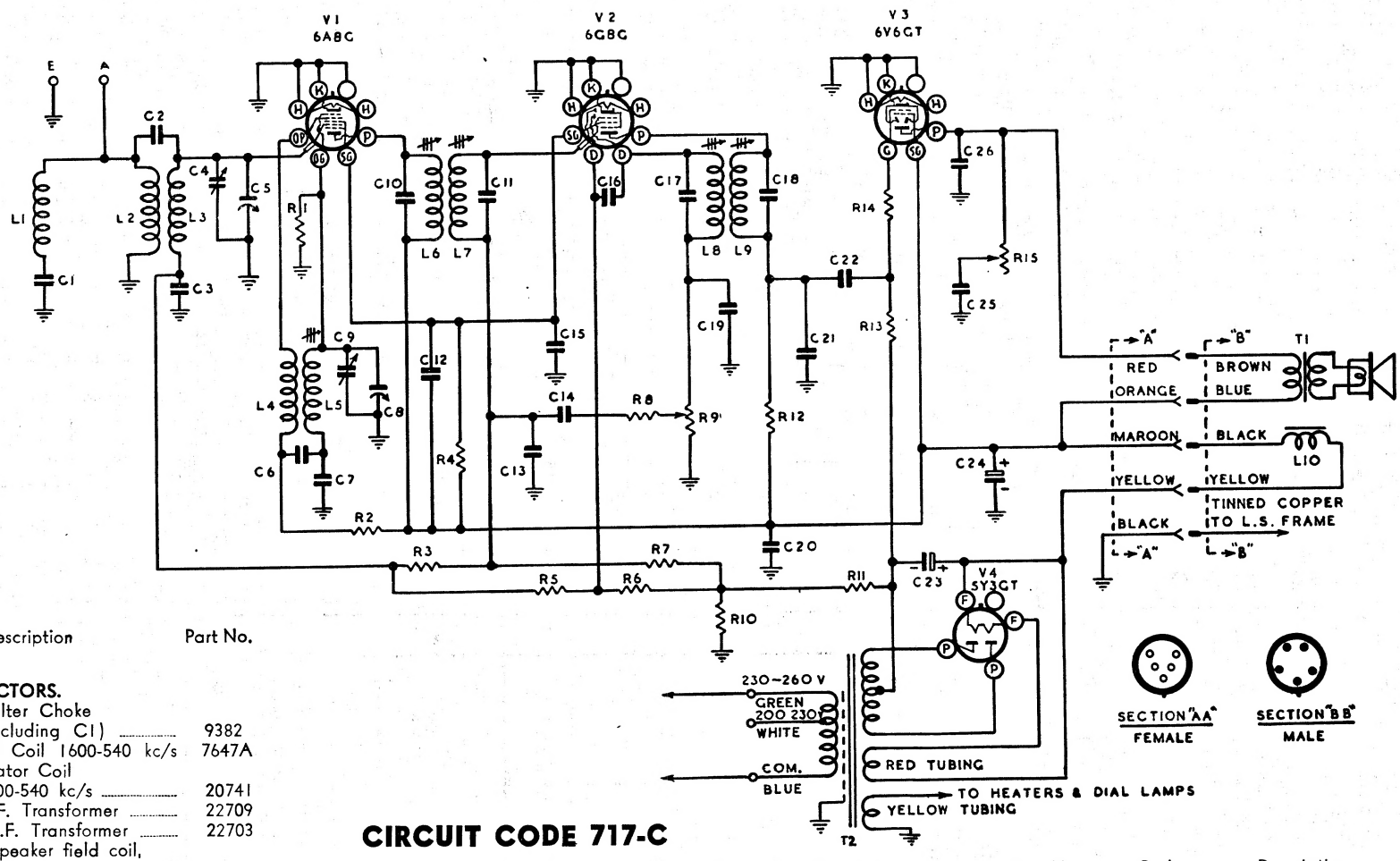
Cabinet Dimensions (inches)	Height	Width	Depth
517-M	$7\frac{13}{16}$	$12\frac{3}{4}$	$6\frac{7}{8}$
717-C	28	28	12
Chassis-Base Dimensions (ins.)	2	$10\frac{1}{2}$	$5\frac{1}{2}$
Carton Dimensions (inches)			
517-M	$8\frac{1}{4}$	$13\frac{1}{4}$	$7\frac{3}{4}$
717-C	29	29	13

Weight (nett lbs.)

517-M	16
717-C	51

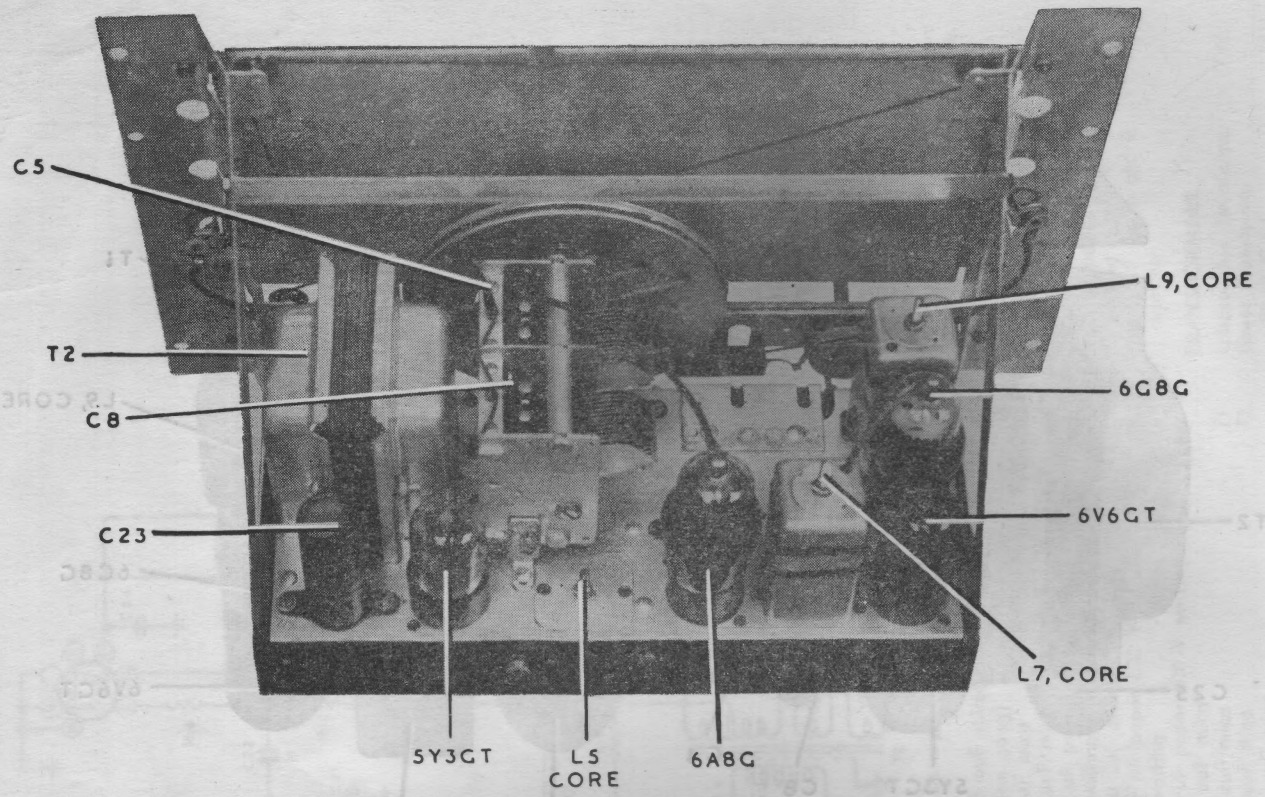
Cabinet Finish

517-M	Moulded Plastic
717-C	Walnut Veneer

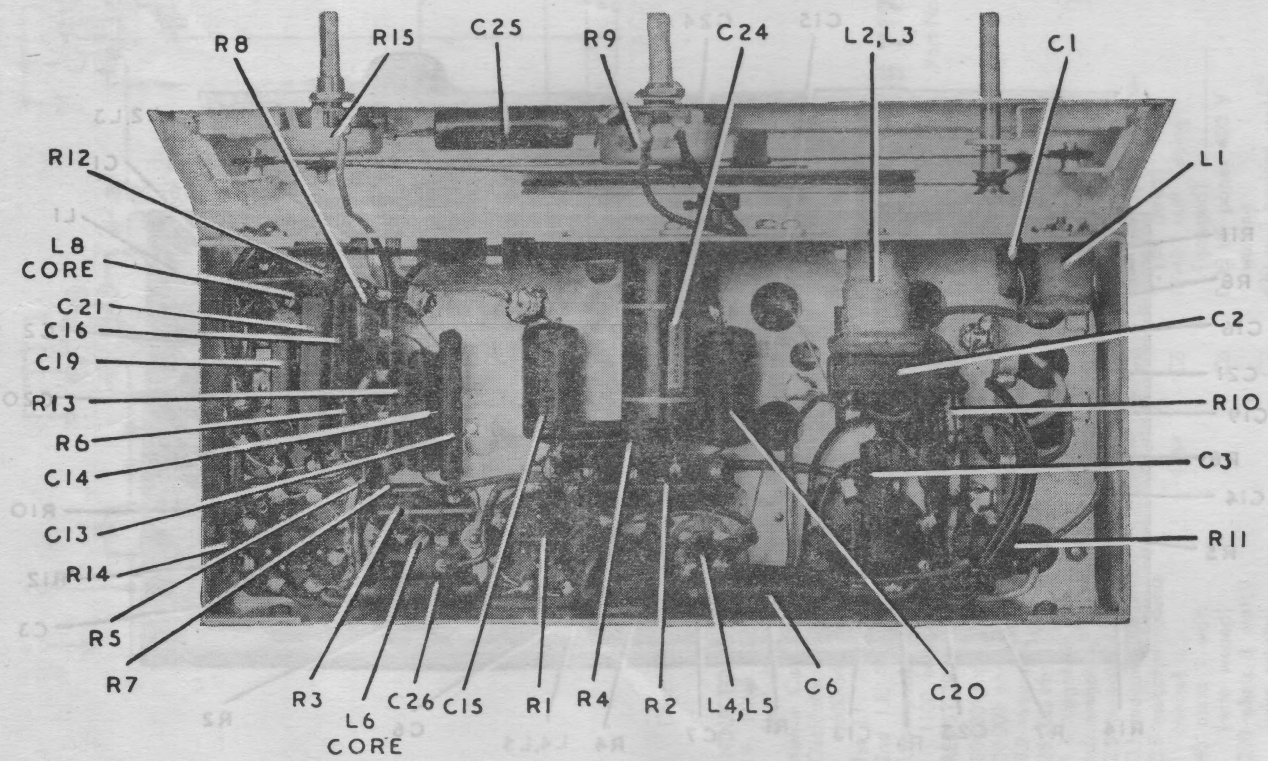


CIRCUIT CODE 717-C

Code No.	Description	Part No.
	INDUCTORS.	
L1	I.F. Filter Choke (Including C1)	9382
L2, L3	Aerial Coil 1600-540 kc/s	7647A
L4, L5	Oscillator Coil 1600-540 kc/s	20741
L6, L7	1st I.F. Transformer	22709
L8, L9	2nd I.F. Transformer	22703
L10	Loudspeaker field coil, 1100 ohms	
	RESISTORS.	
R1	50,000 ohms ½ watt	
R2	20,000 ohms 1 watt	
R3	3.2 megohms 1 watt	
R4	25,000 ohms 2 watt	
R5	1.6 megohms ½ watt	
R6	1.6 megohms ½ watt	
R7	2.5 megohms ½ watt	
R8	0.1 megohm ½ watt	
R9	0.5 megohm volume control	9484
R10	40 ohms 1 watt (wire wound)	
R11	200 ohms 3 watt (wire wound)	
R12	16,000 ohms 1 watt	
R13	0.25 megohm ½ watt	
R14	50,000 ohms ½ watt	
R15	0.1 megohm Tone Control	
	CAPACITORS.	
C1	50 uuF mica	
C2	4 uuF mica	
C3	0.05 uF paper 200 V working	
C4	3-25 uuF spiral trimmer (on gang)	
C5	12-430 uuF Tuning (ganged)	17298
C6	0.05 uF paper 400 V working	
C7	420 uuF padder ±2½%	
C8	12-430 uuF Tuning (ganged)	17298
C9	3-25 uuF spiral trimmer (on gang)	
C10	70uuF mica	
C11	70 uuF mica	
C12	0.1 uF paper 400 V working	
C13	1000 uuF mica	
C14	0.01 uF paper 600 V working	
C15	0.1 uF paper 400 V working	
C16	50 uuF mica	
C17	70 uuF mica	
C18	70 uuF mica	
C19	200 uuF mica	
C20	0.1 uF paper 400 V working	
C21	1000 uuF mica	
C22	0.01 uF paper 600 V working	
C23	16 uF 525 P.V. Electrolytic	
C24	8 uF 525 P.V. Electrolytic	
C25	0.05 uF paper 200 V working	
C26	0.0025 uF paper 600 V working	
	TRANSFORMERS.	
T1	Loudspeaker Transformer	XA1
T2	Power Transformer 50-60 C.P.S.	17875
T2	Power Transformer 40 C.P.S.	17877



CHASSIS (Top View) 717-C



CHASSIS (Underneath View) 717-C

GENERAL DESCRIPTION.

The models 517-M and 717-C are mantel and console models respectively.

The 517-M is housed in an attractively designed moulded cabinet which is produced in four colours—Ivory, Walnut; Green and Burgundy. Features of design include: Tropic-proof construction, automatic volume control, magnetite cores in I.F. transformers and oscillator coil, spiral trimming capacitors mounted on the tuning capacitor.

Feaures of model 717-C are similar to those of model 517-C but uses a straight-line edge lighted dial with metropolitan stations printed in $\frac{1}{8}$" high characters.

ALIGNMENT PROCEDURE.

Manufacturer's Setting of Adjustments.

The receiver is tested by the manufacturers with precision instruments, and all adjusting screws are sealed. Re-alignment should be necessary only when components in tuned circuits are repaired or replaced, or when it is found that seals over the adjusting screws have been broken.

It is especially important that the adjustments should not be altered unless in association with the correct testing instruments listed below.

For all alignment operations, connect the "low" side of the signal generator to the receiver chassis, and keep the generator output as low as possible to avoid A.V.C. action. Also, keep the volume control in the maximum clockwise position.

Testing Instruments.

(1) A.W.A. Junior Signal Generator, type R3911 or

(2) A.W.A. Modulated Oscillator, type J6726.
If the modulated oscillator is used, connect an 0.25 megohm non-inductive resistor across the output terminals.

(3) A.W.A. Output Meter, type 2M8832.

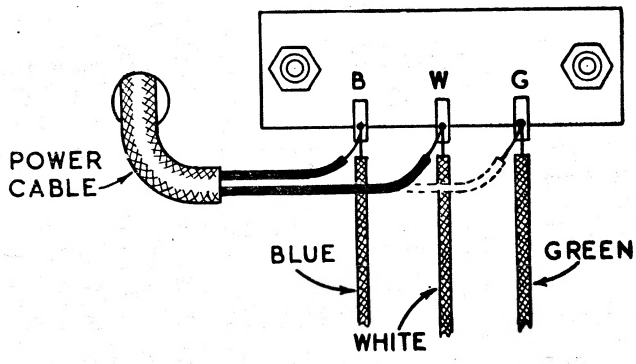
ALIGNMENT TABLE.

Order	Connect "high" side of generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for maximum peak output.
1	6A8G*	455 Kc/s	540 Kc/s	L9 Core
2	6A8G*	455 Kc/s	540 Kc/s	L8 Core
3	6A8G*	455 Kc/s	540 Kc/s	L7 Core
4	6A8G*	455 Kc/s	540 Kc/s	L6 Core
	Repeat the above adjustments until the maximum output is obtained.			
5	Aerial Terminal	600 Kc/s	600 Kc/s	L.F. Osc. core adj. (L5)†
6	Aerial Terminal	1,500 Kc/s	1,500 Kc/s	H.F. Osc. adj. (C9)
7	Aerial Terminal	1,500 Kc/s	1,500 Kc/s	H.F. Aer. adj.‡
	Repeat adjustments 5, 6 and 7.			

*With grid clip connected. An 0.001 uF Capacitor should be connected in series with the high side of the test instrument.
†Rock the tuning control back and forth through the signal.
‡C5 in model 517-M; C4 in model 717-C.

CONNECTION TO POWER SUPPLY.

The receiver should not be connected to any circuit supplying other than alternating current from 200-260 volts and at the frequency stated on the label within the cabinet. The power supply connections are shown in the accompanying diagram. For 200-230 volts operation connect to B and W, and for 230-260 volts to B and G.



CHASSIS REMOVAL.

Model 517-M. Remove two screws from underneath the cabinet and withdraw the chassis.

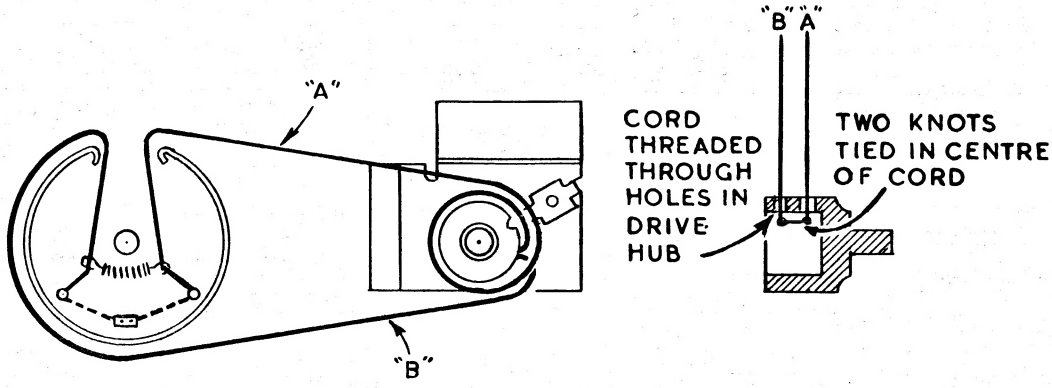
Model 717-C. First remove the control knobs and felt washers—each knob is held by a set screw.

The chassis is held in the cabinet by four winged nuts—one at each corner of the dial frame assembly. Removal of these nuts enables the chassis to be withdrawn from the cabinet.

DIAL POINTER ADJUSTMENT.

Model 517-M. To shift the position of the dial pointer, loosen the set screw in the combined tuning control and pointer, move the control in the required direction and re-tighten the set screw.

Model 717-C. The dial pointer is held in position on the drive cord by two rubber lined clips. To alter the position of the pointer, loosen the two holding clips slightly and move the pointer in the required direction. It is important to reclamp the clips after any adjustment of the dial pointer.



DRIVE CORD REPLACEMENT.

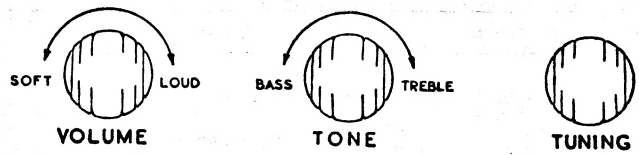
Model 517-M. First remove the stop bracket and drive hub. Tie two knots in the centre of a replacement drive cord (cord approximately 16" long) and thread through the holes in the drive hub, as shown in the accompanying diagram. Then, replace the hub and stop bracket. Turn the drive hub to its extreme clockwise position and bring the tuning gang plates into full mesh. Now replace the drive cord by following the route as shown in diagram.

Model 717-C. Follow the diagram which is affixed to the back of the dial frame assembly. This shows the route of the cord and the method of attachment.

CONTROLS Model 517-M

The controls consist of two knobs mounted concentric with the dial, the larger one being a combined tuning control and pointer whilst the smaller knob is the volume control.

CONTROLS 717-C

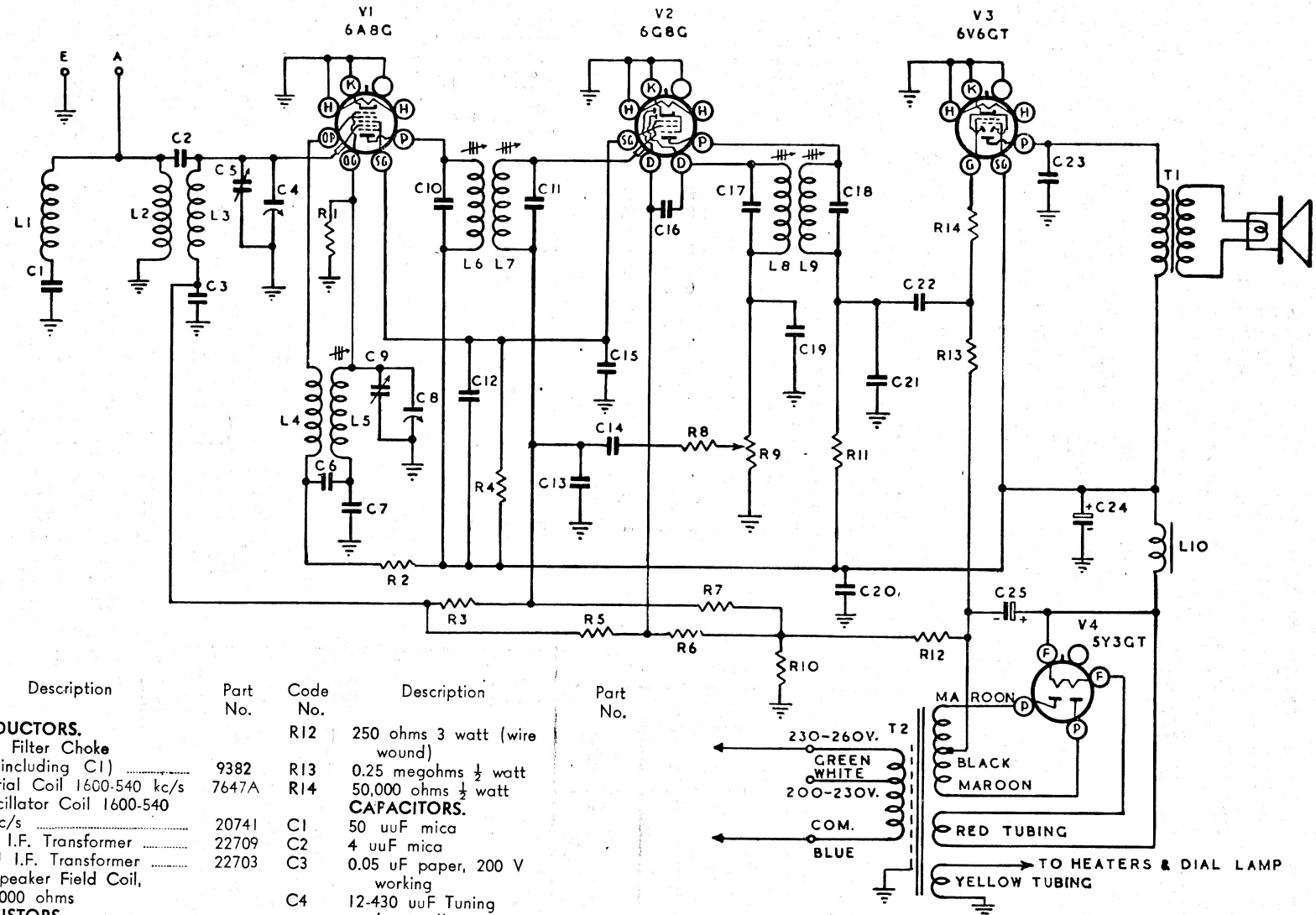


SOCKET VOLTAGES MODEL 517-M.

Valve	Cathode to Chassis Volts	Screen Grid to Chassis Volts	Anode to Chassis Volts	Anode Current mA	Heater Volts
6A8G Converter	0	85	250	2.0	6.3
Oscillator	—	—	150	4.0	—
6G8G Det, I.F. A.M.P. A.F. AMP., A.V.C.	0	85	150*	5.5	6.3
6V6GT Output	0	250	240	30	6.3
5Y3GT Rectifier	300	—	300 RMS, A.C.	—	5.0

Volts across resistors R10 and R12—16
Volts across resistor R10—3.0
Total H.T. Current—55mA
*Calculated from measured current. An ordinary voltmeter will register a lower value. Measured with no signal input.

CIRCUIT CODE 517-M.



Code No.	Description	Part No.
	INDUCTORS.	
L1	I.F. Filter Choke (including C1)	9382
L2, L3	Aerial Coil 1600-540 kc/s	7647A
L4, L5	Oscillator Coil 1600-540 kc/s	20741
L6, L7	1st I.F. Transformer	22709
L8. L9	2nd I.F. Transformer	22703
L10	Loudspeaker Field Coil, 1000 ohms	
	RESISTORS.	
R1	50,000 ohms ½ watt	
R2	20,000 ohms 1 watt	
R3	3.2 megohms 1 watt	
R4	25,000 ohms 2 watt	
R5	1.6 megohms ½ watt	
R6	1.6 megohms ½ watt	
R7	2.5 megohms ½ watt	
R8	0.1 megohm ½ watt	
R9	0.5 megohm volume control	9484
R10	56 ohms 1 watt (wire wound)	
R11	16,000 ohms 1 watt	
R12	250 ohms 3 watt (wire wound)	
R13	0.25 megohms ½ watt	
R14	50,000 ohms ½ watt	
	CAPACITORS.	
C1	50 uuF mica	
C2	4 uuF mica	
C3	0.05 uF paper, 200 V working	
C4	12-430 uuF Tuning (ganged)	17298
C5	3-25 uuF spiral trimmer (on gang)	
C6	0.05 uF paper, 400 V working	
C7	420 uuF padder ±2½%	
C8	12-430 uuF Tuning (ganged)	17298
C9	3-25 uuF spiral trimmer (on gang)	
C10	70 uuF mica	
C11	70 uuF mica	
C12	0.1 uF paper 400 V working	
C13	1000 uuF mica	
C14	0.01 uF paper 600 V working	
C15	0.1 uF paper 400 V working	
C16	50 uuF mica	
C17	70 uuF mica	
C18	70 uuF mica	
C19	200 uuF mica	
C20	0.1 uF paper 400 V working	
C21	1000 uuF mica	
C22	0.01 uF paper 600 V working	
C23	0.01 uF paper 600 V working	
C24	8 uF 525 P.V. Electrolytic	
C25	16 uF 525 P.V. Electrolytic	
	TRANSFORMERS.	
T1	Loudspeaker transformer	XA2
T2	Power transformer 50-60 C.P.S.	17855
	Power transformer 40 C.P.S.	17857

SOCKET VOLTAGES MODEL 717-C.

Valves	Cathode to Chassis Volts	Screen Grid to Chassis Volts	Anode to Chassis Volts	Anode Current mA	Heater Volts
6A8G Converter	0	100	255	3.0	6.3
· Oscillator	—	—	155	4.0	—
6G8G Det., I.F. AMP. A.F. AMP., A.V.C.	0	100	140*	7.5	6.3
6V6GT Output	0	255	240	35	6.3
5Y3GT Rectifier	330	—	330 RMS A.C.	—	5.0

Volts across resistors R10 and R11—15
Volts across resistor R10—2.5
Total H.T. Current—60 mA
*Calculated from measured current. An ordinary voltmeter will register a lower value.
Measured with no signal input.

MECHANICAL REPLACEMENT PARTS.

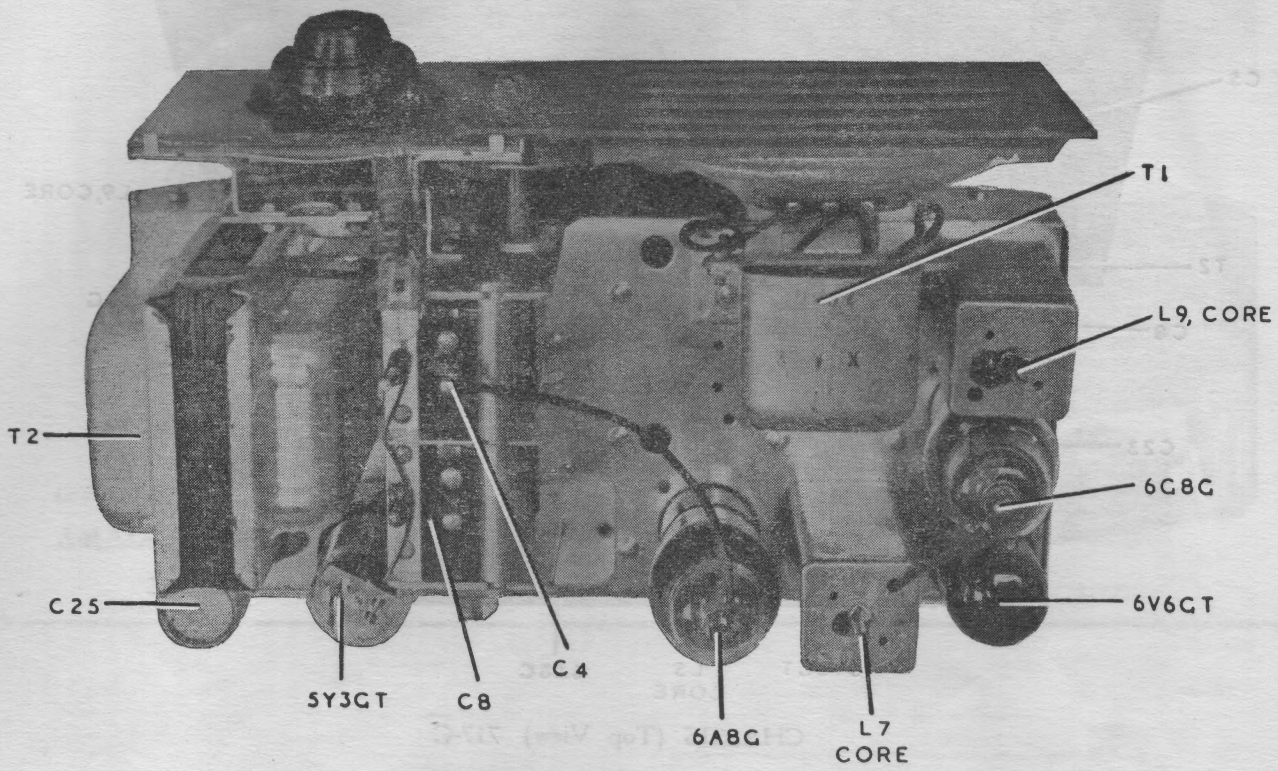
Item	Part No.
Cabinet	
517-M	22450
717-C	C84
Cable, Power	15916
Cable, Speaker (717-C only)	22712
Chassis, End	
517-M Right Hand	22562
Left Hand	22563
717-C Right Hand	22597
Left Hand	22598
Clip, Grid	5793M
Dial Scale	
517-M	22576 or 23306
717-C	22628 or 23315

Item	Part No.
Dial Scale Assembly	
517-M	22574
717-C	20343-C
Drum, Drive (717-C only)	22542
Knob	
517-M Pointer	22448
Volume Control	22449
717-C	4589
Socket, Valve	4704
Strip, tag. 5 way	22578
5 way	15296
5 way (717-C only)	19609
Terminal, aerial	17717

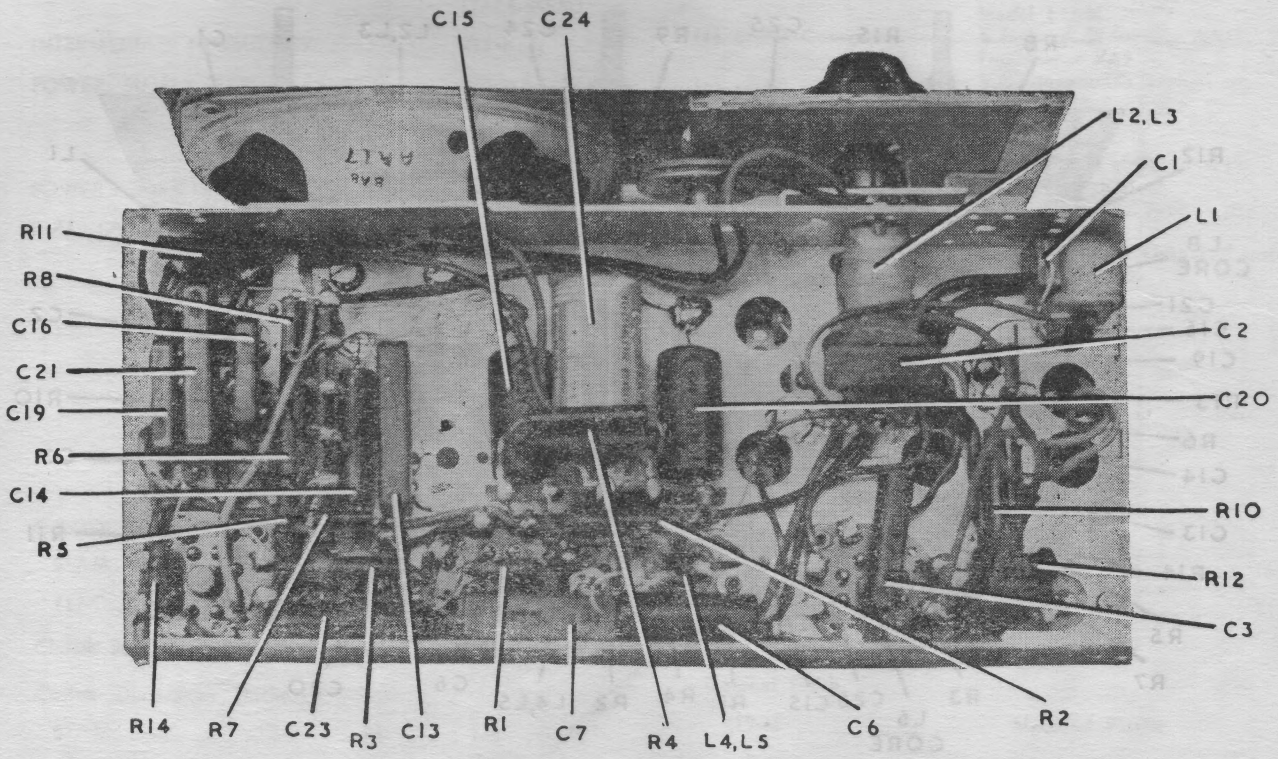
D.C. RESISTANCE OF WINDINGS.

Winding	D.C. Resistance in ohms
Aerial Coil	
Primary (L2)	18
Secondary (L3)	4
Oscillator Coil	
Primary (L4)	1.5
Secondary (L5)	5.5
I.F. Transformer Windings	7
I.F. Filter (L1)	17.5*
Power Transformer (T2)	
Primary	25
Secondary	600
Loudspeaker Input Transformer (T1)	
XA2 Primary	525 or 430
XA2 Secondary	†
XA1 Primary	525 or 430
XA1 Secondary	†

The above readings were taken on a standard chassis, but substitution of materials during manufacture may cause variations, and it should not be assumed that a component is faulty if a slightly different reading is obtained.
*In some receivers this reading may be as high as 60 ohms.
†Less than 1 ohm.



CHASSIS (Top View) 517-M



CHASSIS (Underneath View) 517-M